Tau Imaging in Atypical AD

https://www.neurodegenerationresearch.eu/survey/tau-imaging-in-atypical-ad/

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USA

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Tau Imaging in Atypical AD

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Research Abstract

Project Summary/Abstract Alzheimer disease (AD) is a devastating neurodegenerative diseases with a variety of distinct clinical phenotypes, including typical amnesic dementia as well as atypical language, visual and behavioral/dysexecutive presentations. Our ability to be confident in a diagnosis of atypical AD has been greatly improved by technology to image brain beta-amyloid (A?) in living patients using PET scans. We have known for years that the other major

protein involved in AD- paired helical filament (PHF) tau- appears more closely correlated with brain atrophy and neurodegeneration, the lesions most closely associated with symptoms and clinical phenotype. In the past this has only been possible to measure in post-mortem brain tissue after death. In this proposal, we aim to perform an investigation of a new PET imaging ligand that binds to brain PHF tau in order to try to measure this protein in living individuals with typical AD and PCA-AD. We will scan individuals who have one of two major clinical phenotypes (typical amnestic AD, and posterior cortical atrophy and a known biomarker of AD pathobiology (CSF tau/ A? or amyloid PET imaging). We will compare 18F-T807 tau and 11C-PiB amyloid PET images within and between the clinical phenotypes, and examine them in relation to regional brain atrophy. We will focus particular attention to the posterior cingulate/precuneus as a region of potential overlap between typical AD and PCA-AD to determine whether topographical differences in the underlying molecular pathologies and/or neurodegeneration in this region correlate with differences in clinical phenotype. The ultimate goal of this research is to begin to determine whether 18F-T807 PET will be a useful tool for the design of clinical trials aiming to treat both typical and atypical clinical forms of AD.

Further information available at:

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